

**TELICOTA SP. NR KEZIA KEZIA EVANS, 1949 (LEPIDOPTERA:
HESPERIIDAE: HESPERIINAE) FROM DAUAN ISLAND, TORRES
STRAIT, QUEENSLAND**

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Abstract

Four specimens of a species of *Telicota* Moore, 1881 new to Australia are recorded from Dauan Island, Torres Strait: a male and female collected from blossom of *Citharexylum spinosum* L. and *Melaleuca* L. sp. respectively, and another two males collected while flying amongst tall grass in semi-shade under *Melaleuca* trees. Both sexes are illustrated, including the genital armature of a male that is closest in structure to that of *T. kezia kezia* Evans, 1949 from Papua New Guinea and *T. ohara ohara* (Plötz, 1883) from Papua New Guinea and Australia, while the external facies, except the male sex brand, best fit *T. k. kezia*. In addition, the specimens possess on the hindwing underside a postmedian band that is divided by black veins, a character shared with *T. o. ohara*. The male sex brand of the Dauan Island specimens is broader and more centrally placed in the dark central band of the forewing than that of *T. k. kezia*. Because the Dauan Island specimens do not match any described species, and due to their external similarity to *T. k. kezia*, they are referred to here as *T. sp. nr kezia kezia*. It is proposed that because of their similarities to *T. o. ohara*, they might share some relationship with this species and thus could share the same larval hostplant, *i.e. Flagellaria indica* L.

Introduction

Telicota Moore, 1881 is a genus of predominantly tropical skippers (Evans 1949) often referred to as darters or darts (Corbet and Pendlebury 1992, Braby 2000). The genus is wide ranging, occurring from Sri Lanka and India across south-east Asia, through Indonesia and New Guinea, to the Solomon Islands and Australia (Evans 1949, Corbet and Pendlebury 1992, Parsons 1998, Bascombe *et al.* 1999, Braby 2000, Tennent 2002). Species in the genus are characterised by their black and orange colouration, distinctive forewing sex brands in males and rounded forewings in females. They are moderate-sized skippers, with forewing lengths ranging from 14-17 mm in males and 15-19 mm in females (Evans 1949, Corbet and Pendlebury 1992, Parsons 1998, Braby 2000).

The genus is diverse with more than 38 species recognised by Parsons (1998), who suggested that there were 25 species in Papua New Guinea alone. Nine species are currently recognised in Australia (Braby 2000). The type species is *T. colon* Fabricius, 1775 from India (Evans 1949, Edwards *et al.* 2001).

Telicota species are found in a variety of habitats but predominantly occur in damp, swampy or estuarine areas, or along the margins of monsoon forest, rainforest or riparian forest (Parsons 1998, Braby 2000), although some species can occur in more open forest habitats (Parsons 1998, Braby 2000). Larval host plants of *Telicota* in Australia and Papua New Guinea include grasses (Poaceae), *Flagellaria indica* L. (Flagellariaceae) and sedges (Cyperaceae). In Queensland, several species are known from the islands of

Torres Strait (Waterhouse and Lyell 1914, Braby 2000), but little is documented on the species diversity of *Telicota* in the far north of the Strait, particularly from the islands close to the southern coastline of Papua New Guinea, viz. Dauan, Saibai and Boigu Islands.

While a study is currently underway documenting the *Telicota* species from these northern islands (TAL in prep.), between 2009 and 2015 three males and one female of a strikingly large species of *Telicota* were collected at the western end of Dauan Island. After examination of their wing patterns, including the male forewing sex brands, and their genital armature, it was found that the species was hitherto unrecorded from within Australian territory and best matched *T. kezia kezia* Evans, 1949, which occurs predominantly in New Guinea (Evans 1949, Parsons 1998). Two subspecies of *T. kezia* were described by Evans (1949): *T. k. kezia* from mainland New Guinea and the islands to the west, including Maluku (Evans 1949, Parsons 1998), and *T. k. lenna* Evans, 1949 from New Britain, Witu Island, New Hanover and New Ireland (Evans 1949). The type locality for *T. k. kezia* is Mt Mado, Buru, Maluku (Evans 1949). Currently, there appears to be nothing published on the habits and ecology of *T. kezia* (Parsons 1998). Interestingly, *T. k. kezia* appears to have a more restricted distribution than Evans (1949) and Parsons (1998) indicated, as the latter did not record it from the Bulolo-Wau Valley (Morobe Province) in the north-east of Papua New Guinea, despite a long period of butterfly sampling in the region (Parsons 1991).

Here I report the details of these specimens and their collection on Dauan Island, including field observations, and illustrate male and female adults and the male genital armature. In addition, I discuss the uncertainty surrounding their identification, together with why observations of this species on Dauan Island are infrequent despite a relatively robust collecting effort by butterfly enthusiasts over the last two decades or so.

The following abbreviations refer to repositories from which material has been examined: ANIC – Australian National Insect Collection, Canberra; CGMC – Collection of C.G. Miller, Lennox Head; TLIKC – Joint collection of T.A. Lambkin and A.I. Knight, Brisbane.

Abbreviations of collectors' names are: CGM – C.G. Miller; EJH– Sir Edward J.L. Hallstrom; TAL – T.A. Lambkin; WWB – W.W. Brandt.

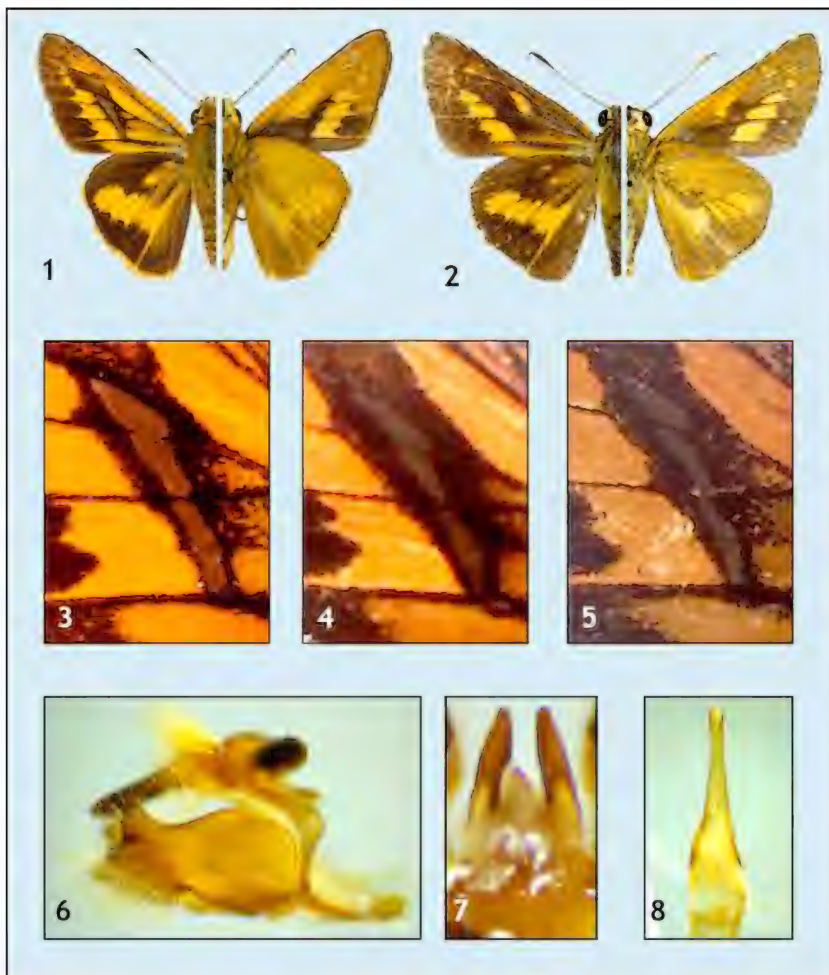
Material examined

Telicota sp. nr *kezia kezia* (Figs 1-8)

QUEENSLAND: 1 ♂, 1 ♀, Dauan Island, Torres Strait, 6.iv.2009 (♂), 13.i.2014 (♀), TAL (TLIKC); 2 ♂♂, same data except 18.iv.2015, 19.iv.2015, CGM (CGMC).

Telicota kezia lenna

PAPUA NEW GUINEA: 1 ♂, Rabaul, New Britain, 22.viii.1952, collected WWB, EJH (ANIC); 1 ♂, Keravat, New Britain, 14.xi.1952, collected WWB, EJH (ANIC).



Figs 1-8. *Telicota* sp. nr *kezia kezia* from Dauan Island, Torres Strait: (1-2) adults: upperside left, underside right [forewing lengths, in mm, in square brackets]: (1) ♂ 6.iv.2009 [19 mm] TLIKC, (2) ♀ 13.i.2014 [20 mm] TLIKC; (3-5) male sex brands LH forewing [sex brand lengths, in mm, in square brackets]: (3) 6.iv.2009 [5.5 mm] TLIKC, (4) 19.iv.2015 [5.3 mm] CGMC, (5) 18.iv.2015 [5.4 mm] CGMC; (6-8) genital armature [lengths of structures, in mm, in square brackets]: ♂ 6.iv.2009 TLIKC: (6) right valva, dorsal surface uppermost [1.5 mm]), (7) divided uncus dorsal view [1.5 mm], (8) phallus [1.8 mm].

Observations

Dauan Island is one of Australia's most northern islands, lying approximately 10 km from the southern coastline of Papua New Guinea. It is roughly 2.5 sq. km in size, with the bulk of the island being hills composed of exposed large granite boulders with, amongst these boulders, extensive patches of semi-deciduous monsoon forest. The highest of these hills is Mt Cornwallis (275 m), which is the dominant feature of the island. The bulk of the village on Dauan Island is situated at the northwestern end of the island.

The first specimen recorded of this Dauan Island *Telicota* was a male collected in April 2009 from blossom of *Citharexylum spinosum* L. (Verbenaceae) (fiddlewood) along the main street of the village. This plant is a common garden tree grown in the village and, at that particular time, the butterflies *Cephrenes moseleyi* (Butler, 1884) (Hesperiidae) and *Graphium codrus medon* (C. & R. Felder, 1864) (Papilionidae) were collected from the same blossom. The other three *Telicota* specimens were collected towards the western end of the village, the female in January 2014 from blossom of *Melaleuca* L. sp. overhanging the road and the remaining two males in April 2015 at the same location, but in tall grass in semi-shade under *Melaleuca*. As in most species of *Telicota*, the Dauan Island males recorded in April 2015 were observed flying rapidly in sunlit glades and settling on tall grass stems, and would frequently challenge males of other *Telicota* species for territory (C.G. Miller pers. comm.).

The four specimens collected are typical of *Telicota* in form, as per Evans (1949), but they differ from all other *Telicota* species recorded thus far from Australia in being much larger and roughly similar in size to *C. moseleyi*: i.e. male and female with forewing lengths of around 19-20 mm. The forewing uppersides of the Dauan Island specimens have almost no extension of the outer edge of the orange postmedian bands along the veins to the termen (Figs 1-2) and the hindwing undersides have a fuscous, tawny postmedian band that is divided by black veins. In addition, the sex brands of the three Dauan Island males appear slightly broader than in *T. kezia* males from Papua New Guinea (Parsons 1998: figs 391-393 and 395) and are placed more in the centre of the dark central band of the forewing (Figs 3-5).

The male genital armature of a Dauan Island specimen (in TLIKC) (Figs 6-8) is close to that illustrated as *T. kezia* by Parsons (1998) and, to a lesser degree, to those depicted by Evans (1949). It is also similar to that illustrated as *T. ohara* (Plötz, 1883) from Papua New Guinea (Parsons 1998), Hong Kong (Bascombe *et al.* 1999) and Australia (Braby 2000). The valvae (Fig. 6) and uncus (Fig. 7) of the Dauan Island specimen closely resemble those of the several specimens of *T. kezia* illustrated by Parsons (1998), while only the uncus matches the single example of *T. kezia* depicted by Evans (1949). The phallus (Fig. 8) was not illustrated by either author. Unfortunately neither

author indicated whether their drawings of the male genital armature were of *T. k. kezia* or *T. k. lenna*.

Discussion

Evans (1949) placed *T. kezia* and its allies (*T. ohara*, *T. ternatensis* Swinhoe, 1907, *T. sadra* Evans, 1949) into a group primarily based on the morphology of the genital armature, in particular on the pointed ends of the divided uncus. He indicated that the valvae of the four species were variable, even across subspecies within species, and thus species were difficult to separate using the structure of the genital armatures alone. Similarly, the genital armature of the Dauan Island male (Figs 6-8) has some similarities, particularly the valvae, with the armature of *T. ohara* (Evans 1949, Parsons 1998, Bascombe *et al.* 1999, Braby 2000).

Within the *Telicota* group in which Evans (1949) placed *T. kezia*, a distinctive feature of *T. kezia* is the shape and placement of the male forewing upperside sex brand. The sex brand of *T. kezia* meets vein 1A+2A approximately midway along its length between termen and base and forms an almost vertical line, relatively thin and grey-black in colour, lying in the outer edge of the dark central band, between veins M_3 and 1A+2A. The sex brands of the Dauan Island males differ in that they are broader and are placed centrally in the dark central band of the forewings (Figs 3-5). In addition, Evans (1949) indicated that the postmedian bands on the hindwing undersides in both sexes of *T. k. kezia* are fuscous and narrow, orange in colour and with distinctive black veins running through them. The postmedian bands on the hindwing undersides of the Dauan Island males match those of a *T. k. kezia* male illustrated by Parsons (1998) in width but are broader than those of *T. k. lenna* males illustrated by Evans (1949) and Parsons (1998) and in 2 ♂♂ of *T. k. lenna* examined in ANIC.

Except for the character and position of the sex brands of the three *Telicota* males from Dauan Island, their external facies closely resemble the illustration of a male *T. k. kezia* in Parsons (1998): a 'pale form' collected at Waidoro, Western Province, Papua New Guinea, which is approximately 43 km NE of Dauan Island. In addition, the size of the three *Telicota* males reported here from Dauan Island (Figs 1-2) is notable. Evans (1949) and Parsons (1998) specified that *T. k. kezia* males have a forewing length of 16-18 mm, smaller than the Dauan Island specimens, which have a forewing length of 19 mm ($n = 3$), although this might not be significant.

Taking into account size, overall wing pattern and character and placement of the male sex brands, it remains uncertain whether the Dauan Island material is *T. k. kezia* or another, closely related taxon. I cannot, therefore, place the specimens from Dauan Island confidently in *T. kezia* and thus refer to them here as *T. sp. nr kezia kezia*.

Evans (1949) indicated that *T. kezia* was the only member of his *kezia* group that has distinctive black veins running through the postmedian band of the hindwing underside. He further specified that *T. ohara* lacked this feature. Despite this, *T. o. ohara* is the only species of *Telicota* in Australia that does have predominately black veins running through the postmedian band of the hindwing underside (Braby 2000). The presence of this character in *T. o. ohara* and *T. sp. nr k. kezia* from Dauan Island (Figs 1-2) might indicate that the taxonomy of this *Telicota* group could be more intricate than Evans (1949) indicated.

Despite the intensity of butterfly collecting undertaken on Dauan Island over the past 20 years or so, it is surprising that only four specimens of this taxon have been collected. Based on Evans' (1949) assessment that *T. k. kezia* was related to *T. ohara* and my assessment that the two taxa share some similarities in their external facies and genital armature to *T. sp. nr k. kezia*, it is possible that *T. sp. nr k. kezia* might share the same hostplant as *T. o. ohara* recorded from mainland tropical Queensland (Braby 2000). If this is the case, then the larvae of *T. sp. nr k. kezia* might also be dependent on *Flagellaria indica*, which is a common component of the semi-deciduous monsoon forest on Dauan Island (Torres Strait Regional Authority 2013). If *F. indica* is the host plant of *T. sp. nr k. kezia* on Dauan Island, this might explain its apparent rarity, due at least in part to the butterfly primarily inhabiting the forest canopy where *F. indica* predominantly grows and where, in this habitat, *F. indica* can form impenetrable dense understories (Jones and Gray 1977, Williams 1979). Certainly, its southern congener, *T. h. ohara*, is also reported to be uncommon (Common and Waterhouse 1981) and infrequently observed (Braby 2000), perhaps due to its propensity to also inhabit the forest canopy. This could mean that *T. sp. nr k. kezia* is rarely observed outside the forest, particularly at ground level, much like *T. o. ohara*.

Parsons (1998) noted that W. Brandt, a butterfly worker in Papua New Guinea in the 1950s (his collection is housed in the ANIC), supposed that the taxon *T. k. lenna* was likely a distinct species. Parsons (1998) also suspected that, because *T. k. kezia* varied in its external facies and male genital structure across Papua New Guinea, there might be several species contained in *T. k. kezia*, which may begin to explain the unexpected size of the specimens collected on Dauan Island. For now, the four Dauan Island specimens are tentatively placed as *T. sp. nr k. kezia* until a more thorough revision is made of the *kezia* species-group, particularly in New Guinea.

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